

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Christian FRITZ
Serial No. :
Filed : Herewith
Title : USE OF YNES, ESSENTIAL BACTERIAL GENES AND POLYPEPTIDES

Art Unit :
Examiner :

Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Prior to examination, please amend the application as follows:

In the specification:

Replace the paragraph at page 1, lines 5 to 7, immediately after "Cross Reference to Related Application," with the following rewritten paragraph:

--This application is a divisional of U.S. Patent Application Serial No. 09/163,445, filed on September 30, 1998, which claims priority from U.S. Provisional Application Serial No. 60/070,116, filed on December 31, 1997, both of which are incorporated herein by reference in their entirety.--

Replace the paragraphs at page 11, lines 2 to 9, immediately after "Brief Description of the Drawings), with the following rewritten paragraphs:

--Fig. 1 is a listing of the amino acid and nucleic acid sequences of a yneS polypeptide and gene from a *Streptococcus pneumoniae* strain (SEQ ID NOs:1 and 2, respectively). The complement of the nucleic acid sequence is set forth as SEQ ID NO: 11.

CERTIFICATE OF MAILING BY EXPRESS MAIL

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Date of Deposit 2-5-02

Signature [Signature]

Typed or Printed Name of Person Signing Certificate Heroy Jenkins

Fig. 2 is a listing of the full-length amino acid and nucleic acid sequences of a yneS polypeptide and gene from a *B. subtilis* strain (SEQ ID NOs:3 and 4, respectively). The complement of the nucleic acid sequence is set forth as SEQ ID NO: 12.--

In the claims:

Cancel claims 1 to 38.

Add claim 39 and 40 as follows:

-- 39. A composition comprising a pharmaceutically acceptable excipient and an antibacterial agent identified as a candidate antibacterial agent by a method comprising:

- (a) contacting an S-yneS polypeptide with a test compound; and
- (b) detecting an interaction of the test compound with the S-yneS polypeptide, wherein an interaction indicates that the test compound is a candidate antibacterial agent.

40. A composition comprising a pharmaceutically acceptable excipient and an antibacterial agent identified by a method comprising:

- (a) contacting an S-yneS polypeptide with a test compound;
- (b) detecting an interaction of the test compound with the S-yneS polypeptide, wherein an interaction indicates that the test compound is a candidate to be an antibacterial agent; and
- (c) determining whether the candidate antibacterial agent inhibits growth of bacteria, relative to growth of bacteria cultured in the absence of the candidate antibacterial agent that interacts with the polypeptide, wherein inhibition of growth indicates that the candidate antibacterial agent is an antibacterial agent.--

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Attorney's Docket No.: 06286-090002

In the drawings:

Please substitute the enclosed formal drawings for the original figures as follows:

New Fig. 1 for original Fig. 1.

New Fig. 2 for original Fig. 2.

New Fig. 3 for original Fig. 3.

New Fig. 4 for original Fig. 4.

06286-090002

REMARKS

Claims 39 and 40 are pending in this application. Applicants have cancelled claims 1 to 38, and added claims 39 and 40. New claims 39 and 40 are directed to compositions that include antibacterial agents identified by the recited methods. The recited methods are similar to claims 1 and 2 as allowed in application serial number 09/163,445. Support for the new claims can be found throughout the specification, specifically at page 5, lines 8 to 17, and page 8, lines 1 to 8. Amendments to the specification were made to conform the specification to the drawings and sequence listing submitted herewith. Thus, the amendments add no new matter.

The amendments also replace the original figures with formal drawings. Figures 1 and 2 have been amended. Original Figure 1 incorrectly depicts the *Streptococcus pneumoniae* yneS polypeptide and gene as SEQ ID NOs: 2 and 1, respectively. New Figure 1 correctly depicts the polypeptide and gene as SEQ ID NOs: 1 and 2, respectively. Original Figure 2 incorrectly depicts the *Bacillus subtilis* yneS polypeptide and gene as SEQ ID NOs: 4 and 3, respectively. New Figure 2 correctly depicts the polypeptide and gene as SEQ ID NOs: 3 and 4, respectively. These errors would be immediately apparent to one of skill in the art because the correct SEQ ID NOs were used for each sequence throughout the specification as originally filed. Thus, the correction merely transposes the SEQ ID NOs and introduces no new matter.

Applicants hereby submit enclosures that fulfill the requirements under 37 C.F.R. §1.821-1.825. The Sequence Listing adds no new matter under C.F.R. §1.821(g).

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Attached is a marked-up version of the changes being made by the current amendment. Applicant asks that all claims be examined and allowed. Please apply any excess charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 06286-090002.

Respectfully submitted,

Date: February 5, 2002

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Version with Markings to Show Changes Made

In the specification:

The paragraph at page 1, lines 5 to 7, immediately after "Cross Reference to Related Application," has been amended as follows:

--This application is a divisional of application serial number 09/163,445 filed September 30, 1998, which claims priority under 35 U.S.C. § 119 from U.S. Serial No. 60/070,116, filed December 31, 1997, which are incorporated herein by reference in their entirety.--

The paragraphs at page 11, lines 2 to 9, immediately after "Brief Description of the Drawings), have been amended as follows:

--Fig. 1 is a listing of the amino acid and nucleic acid sequences of a yneS polypeptide and gene from a *Streptococcus pneumoniae* strain (SEQ ID NOs:1 and 2, respectively). The complement of the nucleic acid sequence is set forth as SEQ ID NO: 11.

Fig. 2 is a listing of the full-length amino acid and nucleic acid sequences of a yneS polypeptide and gene from a *B. subtilis* strain (SEQ ID NOs:3 and 4, respectively). The complement of the nucleic acid sequence is set forth as SEQ ID NO: 12.--

In the claims:

Claims 1 to 38 have been cancelled.

Claims 39 and 40 have been added.

In the Drawings:

Figs. 1 and 2 have been amended as indicated in red on the attached copies.

STRPN_MPI_ynsS

EQ ID NO: 2
EQ ID NO: 11
EQ ID NO: 2
1

1 ATGATTACAATAGTTTTATTAAATCCTAGCCTATCTGCTGGGTTGGAITCCATCTGGTCTCTGGATTGGACAAGTATTCTTTCAAATCAATCTACGGCAGC 100
TACTAATGTTTATCAAAATAATTAGGATCGGATAGACGACCCAGCTAAGGTAGACCAGAGACCTAACCTGTTTATAAGAAAAGTTTAGTTAGATGCGCTCG

1 M I T I V L L I L A Y L L G S I P S G L W I G Q V F F Q I N L R E H 34

101 ATGGTTCGGTAACTCGGAACGACCAACACCTTCGCGATTTTGGTAAGAAAGCTGGTATGGCAACCTTTGTGATTGACTTTTTCAAAGGAACCTTAGC 200
TACCAAGACCATTTGTGACCTTGTGCTGGTGTGGAAGGCGTAAATCCATTCTTTGACCATACCGTTGGAAACACTAACTGAAAAAGTTTCTTGGGATCG

35 G S G N T G T T N T F R I L G K K A G M A T F V I D F F K G T L A 67

201 AACCGTCGCTCCGATTATTTTCATCTACAGGCGTTTCTCCTCTCATCTTTGGACTTTTGGCCTTATCGGCCATACCTTCCCTATCTTTGCAGGATTT 300
TTGCGACGAAGGCTAATAAAAAGTAGATGTTCCGCAAGAGGAGAGTAGAAAACCTGAAAACCGACAATAGCCGGTATGGAAGGGATAGAAACGTCCTAAA

68 T L L P I I F H L Q G V S P L I F G L L A V I G H T F P I F A G F 100

301 AAAGGTGGTAAGGCTGTGCGAACCGAGTCTGGAGTGATTTTCGATTTCGCGCTATCTTCTGCTCTACCTTGGGATTATCTTTGGAGCTCTCTATC 400
TTTCACCATTTCCGACAGCGTTGGTCACGACCTCACTAAAAGCCTAAACGCGGATAGAGAAGAGAGATGGAACGCTAATAGAGAAGAACCTCGAGAGATAG

101 K G G K A V A T S A G V I F G F A P I F C L Y L A I I F F G A L Y L 134

401 TTGGCAGTATGATTTCACTGTCTAGTGTACAGCATCGATTGCGGCTGTTATCGGGGTTCTGCTCTTTCCACTTTTTGGTTTTATCCTGAGTAACTATGA 500
AACCGTCATACTAAAGTGACAGATCACAGTGTGCTAGCTAACGCGGACAAATAGCCCCAAGACGAGAAGGTTGAAAAACCAAAATAGGACTCATTGATACT

135 G S M I S L S S V T A S I A A V I G V L L F P L F G F I L S N Y D 167

501 CTCTCTCTTCATCGCTATTATCTTAGCCTTGTAGTTTGGATTATCATTCGTCATAAGGACAATATAGCTCGTATCAAAAATAAAACTGAAAAATTTGGTC 600
GAGAGAGAAGTAGCGATAATAGAAATCGTGAACGATCAAACTAATAGTAAGCAGTATTCCTGTTATATCGAGCATAGTTTTTATTTTGACTTTTAAACGAG

168 S L F I A I I L A L A S L I I I R H K D N I A R I K N K T E N L V 200

601 CCTTGGGGATTGAACCTAACCCATCAAGATCCTAAAAATAA 642
GGAACCCCTAACTTGGATTGGGTAGTTCTAGGATTTTTATT

201 P W G L N L T H Q D P K K * 213

人 口 密 集 区 的 水 质 污 染 状 况 如 下 表 所 示

4
EQ ID NO. 2
EQ ID NO. 12
EQ ID NO. 4
3

1 ATGTTAATTGCTTTATTGATTATTTTGGCCTACTTGATAGGCAGCATTCCATCTGGCTTAATTGTGGGCAAGCTTGGCCAAAGGAATTGATATTCGGGAGC 100
TACAAATTAACGAAATAACTAATAAAACCGGATGAACATATCCGTCGTAAGGTAGACCGAATTAACACCCGTTTGGAAACGGTTTCTTAACTATAAGCCCTCG

1 M L I A L L I I L A Y L I G S I P S G L I V G K L A K G I D I R E H 34

101 ACGGAAGCGGCAACTTAGGCGCTACCAATGCATTCCGTACATTGGGTGTAAAAGCTGGTTCGGTCGTATAGCCGGAGATATTTTGAAGGGGACACTGGC 200
TGCCCTTCGCCGTTGAATCCGCGATGGTTAGCTAAGGCATGTAACCCACATTTTCGACCAAGCCAGCAGTATCGGCCCTCTATAAACTTTTCCCTGTGACCG

35 G S G N L G A T N A F R T L G V K A G S V V I A G D I L K G T L A 67

201 AACTGCATTGCCCTTTTCTCATGCATGTTGATATTCACCCGCTTCTTGCAAGAGTCTTTGCGGTTTTAGGCCACGTTTCCCATCTTCGCCAAATTTAAA 300
TTGACGTAAACGGAAGAGTAGCTACAATATAAGTGGGCGAAGAAGCTCCTCAGAAACGCCAAATTCGGTGCACAAAGGGTAGAAGCGGTTTAAATTT

68 T A L P F L M H V D I H P L L A G V F A V L G H V F P I F A K F K 100

301 GCGCGTAAAGCCGTGGCGCATCAGGAGCGCTTTTGCTATTTTACGCACCCCTGTTATTTATCAGATGGTTGCGGTATCTTTCATCTTTTATACTTGA 400
CCGCCATTTTCGGCACCGCTGTAGTCTCCGCAAAACGATAAAATGCGTGGGGACAATAAATAGTGCTACCAAGCCCATAGAAGTAGAAAAATATGAAC

101 G G K A V A T S G G V L L F Y A P L L F I T M V A V F F I F L Y L T 134

401 CTAAATTTGTTTCTCTCTCATCGATGTTAACAGGGATCTATACTGTTATATATAGTTTCTTTGTCCATGATACGTTATTTATTGATTGTGCTTACCCTGCT 500
GATTTAAACAAAGAGAGTAGCTACAAATGTCCTAGATATGACAAATATATATCAAGAAACAGGTACTATGCATAAATAACTAACAGCAATGGGACGA

135 K F V S L S S M L T G I Y T V I Y S F F V H D T Y L L I V V T L L 5767

501 CACTATTTTGTGATATACAGACACCGAGCGCAACATTAACGAATTATCAATAAAACAGAACCTAAAGTAAATGGTTATAA 582
GTGATAAAACACTATATGTCTGTGGCTCGCTTGTAAATTTGCTTAATAGTTATTTGTCTTGGATTTCATTTTACCAATATT

168 T I F V I Y R H R A N I K R I I N K T E P K V K W L * 193